REMARKS

Reconsideration is respectfully requested.

By the above Amendment, Claims 1, 9 and 14 have been amended to more clearly delineate and recite the features considered by the Applicants to comprise their invention. These amendments are not considered to be substantive in nature, but only are presented to more clearly and distinctly claim the invention.

Applicants again respectfully request reconsideration of the final status of the rejection. The First Office Action Final Rejection was instituted following a Request for Continued Examination (RCE). In view of the following remarks, and in view of the apparent misunderstanding by the Examiner of the purpose of the Applicant's Response filed on July 10, 2002, in which Applicants clearly state that the Response is a "partial" response for the purposes of only requesting reconsideration of the Final Status of the rejection on the First Office Action following the RCE, Applicants respectfully maintain that the Examiner's remarks in the Advisory Action that "Applicants response has been fully considered but they're (sic) not persuasive since Applicants have not responded to the Office Action dated July 2, 2002," is considered inappropriate and not responsive to the Applicant's limited request for reconsideration only of the Final Status of the rejection. Applicants again respectfully request reconsideration and withdrawal of the Final Status of the First Office Action, following the RCE, because the Final rejection was premature, and because the Examiner's Advisory Action failed to provide any reasons as to why the request for reconsideration was denied, or as to why the reconsideration apparently was not even made.

In addition, Applicants filed an After Final Response with the RCE by facsimile on June 18, 2002, in which arguments for patentability were made. Applicants respectfully submit that these arguments were not adequately addressed in the Office Action dated July 2, 2002.

For these reasons, Applicants respectfully request reconsideration and withdrawal of the final status of the rejection.

With respect to the substantive rejection, Applicants respectfully submit that the rejections of Claims 1-20 under 35 U.S.C.§103(a) based on the Applicants' admitted prior art (AAPA) in view of Ota et al. and Channin are improper.

Applicants particularly disagree with the contention that it would have been obvious to combine the Channin reference with AAPA and/or Ota et al., since as explained in the Response filed on June 18, 2002, Page three, Channin is drawn to a "liquid crystal lens", and not to an LCD, as recited in the claims of this application.

As is well known in making a determination of obviousness, the mere presence of the elements of a claim in the prior art, without a teaching reference or some type of incentive, other than that described and taught in the application being examined, is necessary to show the desirability and technical feasibility of the proposed combination of teachings taken from the references. It is insufficient to propose a mere "modification" to one teaching (the AAPA) in view of the teachings taken from another reference, for example, Ota et al. and Channin. To simply state that the teachings of two disparate reference are combinable, without providing reasons as to why the practitioner having ordinary skill in the art would be led to making the proposed combination, is contrary to the standards of obviousness.

In the case of the proposed combination, the rejection of the claims of the present application fail to set forth an adequate teaching, suggestion or even incentive for making the proposed combination. At best, in the rejection set forth at Page 3 of the Office Action, dated December 18, 2001, Channin is relied upon as teaching that the "purpose of making the distance between the substrate greater than the distance between the electrodes is to improve the changes in the direction of propagation of the light rays passing through such a cell (see Col. 3, lines 39-53 and Figure 4)". Leaving aside the issues, for the present, of whether, Channin is analogous art (Channin is drawn to a liquid crystal lens, not a liquid display (LCD), as claimed herein), and whether Channin actually teaches that for which it is relied upon, (the cited portion of Channin does not teach the limitation, for example, that the distance between the substrates "is greater than the distance between the branch of the counter electrode and the strip of the pixel electrode" as recited in Claim 1; at best, Channin teaches that the "ratio of the width of the liquid crystal layer 24 to the inter-electrode spacing, or aspect ratio, thus varies from about 0.5 to about 2.0," at least a portion of which is outside the claimed range), the very reference relied upon in the statement of obviousness, Channin, itself teaches against the proposed combination. Reference is made to Column 1, lines 47 to 65 of Channin, which, as a description of the prior art, cites the reference to Soref, U.S. Patent No. 3,807,381, drawn to an LCD device. Soref is said to teach a liquid crystal layer in which "the liquid crystal layer thickness varied from 0.5 micron to about 1.5 microns and the aspect ratio...varied from 0.04 to 0.15." Soref, however, was found not to be relevant by the inventor to Channin's invention because as set forth in Channin, "Soref does not teach the use of such a device as a lens." Thus Channin distinguishes the use of an aspect ratio of a

desirable size in an LCD, because it is drawn to a liquid crystal lens. Accordingly, the Examiner's suggestion that Channin teaches or suggests the proposed combination is belied by the reference when understood to make an actual description, that use in an LCD device is so different from use in a lens structure, that the two are not relevant, and are thus distinguished.

Ota et al. similarly teaches against the proposed combination, because Ota et al. is drawn to an active matrix type LCD apparatus. As set forth in Ota et al., Column 1, lines 8-54, the invention of Ota et al. is drawn to, and applicable in devices for an active LCD, that is, one in which "the liquid crystal is operated by an electric field which is disposed parallel to a substrate plane between two electrodes composed on the similar substrate, and an image is displayed by undulating incident light into the liquid crystal through a gap between the two electrodes." This active LCD is said to be preferable to the one where the liquid crystal is held between two substrates because "it has preferable features, such as wide viewing angles," Column 1, line 29. Thus, Ota et al. teach that the active LCD is preferable because it can produce a wider viewing angle. This is not a teaching that an LCD according to the present invention should be modified to produce a wider viewing angle; to the contrary, Ota et al. teach that one should not modify an LCD in which the liquid crystal is held between two substrates, but one should utilize an active LCD to achieve a wider viewing angle. The very purpose which is described and claimed as a feature of the present invention is taught by Ota et al. to found in a device different from that which is claimed. The types of devices, the elements of which are recited in Claims 1 and 9, are distinguished by Ota et al. because they belong to a different category, Column 1, lines 13-22. Thus, it is respectfully suggested that the proposed

combination, that is, an LCD as claimed, cannot be taught by reliance on AAPA in view of two secondary references, which each teach against the very combination proposed in the Office Action.

For these reasons, Applicants respectfully request reconsideration of and withdrawal of the rejections, made under 35 U.S.C.§103(a), as being improper. In view of the Applicant's overcoming of the rejections, and in view of the non-substantive amendments made to Claims 1, 9 and 14, it is respectfully suggested that the application is allowable. In the event that the rejections are again maintained, Applicants respectfully request reconsideration and withdrawal of the Final Status of the rejections, as being premature, and earnestly solicit further examination based on the claims as amended above.

Respectfully submitted,

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MARKED UP VERSION OF CLAIMS 1, 9 AND 14

1. (Twice Amended) A reflective liquid crystal display (LCD) of high aperture ration, high transmittance and wide viewing angle comprising:

a lower substrate; [and]

an upper substrate opposed to the lower substrate and being separated there from by [with] a selected distance;

a liquid crystal layer sandwiched between the lower and the upper substrates [and] comprising a plurality of liquid crystal molecules;

a gate bus line and a data bus line formed on the lower substrate to define a pixel;

a counter electrode and a pixel electrode formed at an inner surface of the lower substrate wherein both electrodes are formed [with] having a selected distance separating said electrodes and a selected width so that most of the liquid crystal molecules in upper portions of those electrodes are sufficiently driven by forming a fringe field between said counter and pixel electrodes;

a thin film transistor provided adjacent to an intersection of the gate bus line and the data bus line and transmitting a signal of the data bus line into the pixel electrode when the gate bus line is selected;

a polarizing plate disposed at an outer surface of the upper substrate;

a reflecting plate disposed at an outer surface of the lower substrate; and

a quarter wave plate sandwiched between the reflecting plate and the lower substrate[, or between the polarizing plate and the upper substrate],

wherein both counter and pixel electrodes are made of a transparent conductor, and wherein [a] the selected distance between the upper and lower substrates is greater [in length] than the selected distance between the counter and pixel electrodes.

9. (Twice Amended) A reflective liquid crystal display (LCD) [of] having high aperture ratio, high transmittance and a wide viewing angle comprising:

a lower substrate; [and]

an upper substrate opposed to the lower substrate and being separated therefrom by [with] a selected first distance;

a liquid crystal layer sandwiched between the lower and the upper substrates [and] comprising a plurality of liquid crystal molecules;

a gate bus line and a data bus line formed on the lower substrate to define a pixel;

a counter electrode formed at each pixel of the lower substrate, transmitted with the common signal and having a plurality of branches diverged in parallel with the data bus line and at least a bar for connecting the branches, wherein the respective branches have a first width and [they] are spaced and separated by [with] a second distance;

a pixel electrode having a plurality of strips formed between the respective branches of the counter electrode, having a second width, and spaced apart by a third distance, and at least a bar for connecting the strips;

a thing film transistor provided adjacent to an intersection of the gate bus line and the data bus line and transmitting a signal of the data bus line into the pixel electrode when the gate bus line is selected;

a polarizing plate disposed at an outer surface of the upper substrate;

a reflecting plate disposed at an outer surface of the lower substrate; and

a quarter wave plate sandwiched between [the reflecting plate and the lower substrate or between] the polarizing plate and the upper substrate,

wherein both counter and pixel electrodes are made of a transparent conductor,

wherein [a] first distance between the upper and lower substrates is greater [in length] than the second distance between the branch of the counter electrode and the strip of the pixel electrode,

wherein the first and second widths are set such that the liquid crystal molecules in upper portions of the branch of the counter electrode and the strip of the pixel electrode are aligned by the electric field between adjacent branches and strips.

14. (Twice Amended) The reflective LCD of Claim 13, wherein the dimensions of the first width and the second width are in the range of 2[~] to 8μm respectively.